Record Nr. UNINA9911010526203321 Autore Perini Katia Titolo Nature-Based Cities: Performance-Driven Design Approaches for Climate Change Adaptation / / by Katia Perini, Francesca Mosca Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2025 Pubbl/distr/stampa 3-031-94612-X **ISBN** Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (0 pages) Digital Innovations in Architecture, Engineering and Construction, Collana 2731-7277 MoscaFrancesca Altri autori (Persone) Disciplina 720.47 696 Soggetti Sustainable architecture Sustainability Climatology Sociology, Urban Urban economics Sustainable Architecture/Green Buildings Climate Sciences **Urban Sociology Urban Economics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto The Introduction to Nature based Cities -- Key Performances of Nature based Solutions -- Nature based Solutions for Microclimate Regulation and Human Comfort -- Nature based Solutions for Stormwater Retention -- Performance Driven Design Approach a case study --Design recommendations for Nature based Cities. Sommario/riassunto This book introduces a groundbreaking approach to urban design, addressing site-specific challenges arising from the impacts of climate change. It provides an overview of the most relevant climate change impacts and related adaptation strategies, aligning with sustainable

development goals. Nature-based solutions (NBS) are some of the most significant adaptation strategies, yet the book addresses the lack of quantitative approaches for their design. A design approach and related methodology that can be used by designers with different levels of

complexity is presented, discussing its applicability and limitations according to selected key performance indicators and related thresholds. Such methodology and the related tools are applied to case studies with a focus on the performance of NBS in improving thermal comfort (microclimate regulation) and reducing flooding risks (stormwater retention). A final workflow for a coupled performance-driven design approach is presented for readers, offering a pathway to define design strategies based on site-specific key performance indicators. The target audience includes practitioners, urban designers and planners, researchers, and anyone interested in urban environment design, nature-based solutions, and computational approaches to sustainable design.